

BACKGROUND

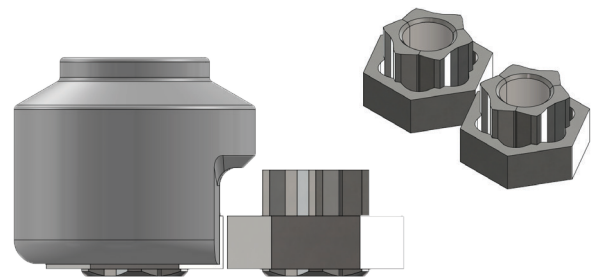
Dozers are used through-out the resources and civil works industries to maneuver rock, soil and rubble. These dozers are equipped with replaceable cutting-edge blades, which are subjected to severe abrasion resulting in them requiring frequent replacement. During field testing of the Segnut 1.25" S9 nuts (now available in Australia and New Zealand exclusively through **Konnect Fastening Systems**) it was found that Caterpillar D10T cutting edge blades featured close spacings on wing tips. Whilst the Segnuts could be easily installed using conventional sockets via the inner-hex of the nut, the close bolt spacing prevented the release sleeve being accessible using a conventional socket.



DOZER CUTTING EDGE BLADE

THE PROBLEM

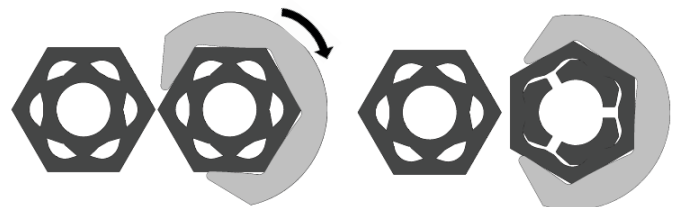
Close fastener spacing prevents conventional sockets from fitting over the Segnuts outer sleeve as the clearance between the sleeves is too small. This means the tightening process can be carried out using standard practices, but the release of the outer sleeve can not be achieved easily.



SOCKET FITMENT IN TIGHT SPACING

CO-CREATION

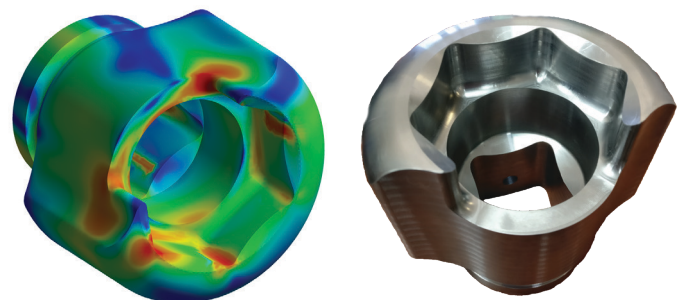
After being made aware of the issue, Segnut worked with the client to efficiently engineer a solution. With the manufacturing process accelerated by the rapid prototyping capabilities of **Westurn Engineering**, no time was wasted getting the product to site to allow the full productivity and safety gains of Segnut to be achieved.



RELEASES WITH 30 DEGREES OF ROTATION

SOLUTION

Segnuts unique design allows for new innovations in tooling. The Close Fit Socket (CFS) is similar to a standard impact socket, however it has a partial open section on the lower hex. This allows the socket 60 degrees of rotational freedom while still acting to properly constrain radial loads within the socket - thus preventing any side ejection forces. Only 30 degrees of rotation is required for the Segnuts release mechanism to function and complete the removal procedure, which means disassembly occurs in one action as the socket does not have to be continually adjusted as it would for a standard nut. The socket was designed using the relevant impact socket standards, FEA computer modelling and in-house physical testing to ensure that it would be suitable for operation on ground engaging equipment.



DESIGNED AND PROTOTYPED SOCKET

Contact Us

To see how Segnut can save you time, money and allow safer work practises, visit our website and follow us on LinkedIn. Australian and New Zealand customers should contact **Konnect Fastening Systems** for product supply enquiries.

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